

DISCUSSION

Claims 67 - 166 as modified by the Examiner in the Office Action of 7/10/95 have been allowed. However, after careful review the Applicant feels that clarity and accuracy would be enhanced by some further changes which have been incorporated in the preceding amended claims. The most significant of these changes have to do with wording as exemplified in Claim 67. Originally it read:

Claim 67. A composition of matter comprising a population of multiply charged ions derived from a sample substantially comprising a single polyatomic parent molecular species, all molecules of said parent molecular species having substantially the same molecular weight, the number of charges on each ion defining said ion's charge state number, said population of said multiply charged ions comprising a plurality of sub-populations, one of said sub-populations for each charge state number whose minimum value is not less than three and whose maximum value is not less than five.

The Examiner's modification changed the underlined phrase to sub-populations having a. Applicant respectfully submits that this change leaves the preceding term "plurality of sub-populations" without meaning because "sub-population" is not defined anywhere else. As used in this claim and throughout all the other claims the term "sub-population" is meant to refer to a population of ions in which all ions have the same charge state number (and indeed the same composition). The examiner's modification requires the term "sub-population" to mean a population of ions with a variety of charge state numbers. Moreover, it would remove the basis for the dependent claims 68 and 69 because they relate specifi-

cally to the original wording of Claim 67. Applicant has now proposed an amended Claim 67 that retains only the first four words of the original and now reads:

Claim 67 (amended). A composition of matter comprising one or more populations of multiply charged ions derived from a sample comprising one or more distinct polyatomic parent molecular species, all molecules of any one of said distinct polyatomic parent molecular species having substantially the same molecular weight and chemical identity, the number of charges on each ion in said composition of matter defining that ion's charge state number, at least one of said one or more populations of multiply charged ions comprising a plurality of sub-populations of ions formed from one of said one or more distinct polyatomic parent molecular species in said sample, all the ions of each of said sub-populations having the same charge state number, said same charge state number differing from the charge state numbers of the ions in the other sub-populations of said plurality of sub-populations, said plurality of sub-populations comprising one sub-population for each value of charge state number beginning with a smallest value not less than three and extending to a largest value not less than five.

This new wording is appreciably longer but Applicant believes it constitutes a much cleaner and clearer description and definition of what is claimed. Analogous changes are proposed in the other claims involving similar subject matter. Also to be noted is that in the proposed modified claims the term "minimum" in reference to charge state number has been replaced by "smallest" in order to avoid any connotation of "smallest possible" inherent in the word

"minimum". Similarly, "maximum" has been replaced by "largest."

Applicant has also deleted the term "amu" where it relates to the molecular weight of a species. As now used the term "molecular weight" is defined as a ratio of the mass of a molecule to the mass of some reference species, often carbon-12, and is thus dimensionless. For that reason the preferred symbol is now usually M_r . By the way the abbreviation "amu" standing "atomic mass unit" is no longer officially approved, having been replaced by either "u", or "Da" for "dalton". Another error by the applicant has been the use of the term "polyethylene glycol" which really means "dihydroxy polyethylene". The correct term for polymers of ethylene glycol, the species referred to in the specification and claims, is "poly (ethylene glycol)". Amended claims include this change.

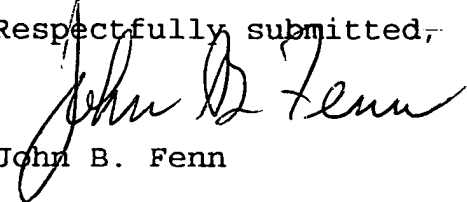
After careful review Applicant has cancelled claims 167-187 because he feels that they are awkwardly worded as well as redundant placing too much emphasis and dependence on methodology of mass analysis which he believes is adequately covered by the claims included in the already issued patent of which the subject application is a continuation in part. Applicant has also added new claims 188-199 which make use of empirical chemical formulas to define the claimed compositions of matter. Such empirical formulas have long been widely used in chemistry and Applicant believes that they provide much clearer and more succinct descriptions of the claimed compositions of matter than have been previously achieved with words alone. Applicant hopes the Examiner concurs in these and other changes and finds the amended claims allowable.

The Examiner has called attention to the need for changes in the drawings to make them acceptable. The specification and drawings for this application are identical with those of the parent application, Serial number No. 773,776, which was filed on 10 October 1991 and led to Patent Number 5,130,538 which issued on 14 July 1992. Applicant understands that it is possible and permissible for the original drawings from the file of the issued patent to be transferred to the file of the subject application. He respectfully asks the Examiner to request such a transfer.

Applicant also notes that the Office Action of 7/10/95 was mailed to the previous Attorney of Record, Peter L. Berger, Levisohn, Lerner and Berger, 757 Third Ave, Rm 2400, New York, NY 10017. Applicant has withdrawn the Power of Attorney from Mr. Berger and is now prosecuting the application himself. He would be most grateful if the Examiner would see to it that the Patent Office Records are corrected to reflect this changed situation so that future communications will be mailed directly to him at his home address: 4909 Cary Street Road, Richmond, VA 23226.

Applicant encloses the amount of \$605 dollars for the issue fee due.

Respectfully submitted,


John B. Fenn